



BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

CHLOROPHYLL A SAMPLING METHOD FOR LAKES

OCTOBER 2015

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1. Anchor boat over sampling location and record the following information on the Lake/Reservoir Field Data Sheet (3800-FM-BPNPSM0050) (Appendix A).

Station Number	Dissolved Oxygen profile (Hydrolab or equivalent)
Date	Temperature profile (Hydrolab or equivalent)
Time	Meteorological conditions
Water depth	Air temperature
Water transparency (Secchi Disk)	Wind speed/direction
Latitude and Longitude	Percent cloud cover

2. Collect water sample with Kemmerer or Van Dorn or other similar grab sampling device at a depth of one meter below the surface.
3. Assemble the filtering device, rinse with DI water before placing filter. With forceps, place a 47 mm diameter glass fiber filter (GF/F) such as Whatman or Gelman Type A/E onto the unit, rough side up.
4. Vacuum filter 100 ml (50 ml or less during summer productivity) of sample water through the filter within 30 minutes of collection. Alternatively for filtration on shore, collect sample in a dark brown plastic pre-rinsed collection bottle, and place immediately on ice. Homogenize the sample by inverting or shaking the Van Dorn or collection bottle, measure the 100 ml or less in a graduated cylinder, then pour measured amount into the filtration funnel. Do not allow vacuum pressure to exceed 7 Hg. The filter does NOT need to be stained green or brown (EPA Method LG404). When the last 10 to 50 ml remains, add 10 drops (1/2 ml) of saturated MgCO₃ solution to the sample and finish filtering. Rinse filtration funnel with DI water to wash down any remaining algal cells. Record volume of sample water filtered.
5. Each lake requires one filter blank at the beginning of the data set for the year. Filter 100 ml of DI water through a clean filter, and finish filtering with 10 drops of MgCO₃ in the last 10 to 50 ml. Label as a unique sample. Duplicates should be collected at the rate of one per 10 samples for that lake, or at least one per year's set of samples for each lake.
6. Remove filter from unit with forceps. Fold filter in half, upon itself. Place filter in a plastic petri dish or small plastic vial, wrap in aluminum foil to shield from light; or, alternately, place filter in aluminum foil, careful not to fold the filter anymore. Place in a labeled envelope or small zip baggie, then in a whirl-pack bag. Immediately freeze on dry ice, freeze in a -20C degree freezer, or place on wet ice and deliver to the Lab within 8 hrs. Filters may be held in the freezer for 2 weeks, and sent as a batch to the Bureau of Labs.
7. Ensure proper labelling of samples, double bag on dry ice for shipping and use the Dry Ice shipping label on the cooler or shipping container. Forward to the DEP Bureau of

Laboratories (BOL) in Harrisburg via courier service. Samples must be accompanied by a completed Lab "Sample Submission Sheet" with Chain of Custody information. Forms are available on the BOL website. The Standard Analysis Code (SAC) for the new chlorophyll-a method is B029. If you need phaeophytin results also, include SAC B019 on the Sample Submission Sheet as well.

8. Field observations, including the temperature and Dissolved Oxygen profile, should be recorded on the Field Data Sheet. Enter the field data into Sample Information System (SIS) within 14 days of collection.

Appendix A

Lake/Reservoir Field Data Sheet



LAKE/RESERVOIR FIELD DATA SHEET

Lake Name _____ County _____

Station _____ Lat. _____ Long _____

Date _____ Time _____ Collectors _____

Weather _____

Cloud Cover (%) 0 25 50 75 100 Comments (Hazy/Foggy) _____

Wind Conditions: None Light Moderate Heavy Direction _____

Rain Conditions: None Drizzle Light Moderate Heavy _____

Surface Turbulence _____ Air Temperature (°C) _____

Station Depth (meters) _____

SECCHI DISK READING (TENTHS OF A METER) _____

FIELD MEASUREMENTS

DEPTH (meter)	TEMP (°C)	D.O. (ppm)	pH	Sp. Cond. (Umhos)	DEPTH (meter)	TEMP (°C)	D.O. (ppm)	pH	Sp. Cond. (Umhos)
surface					11M				
1M					12M				
2M					13M				
3M					14M				
4M					15M				
5M					16M				
6M					17M				
7M					18M				
8M					19M				
9M					20M				
10M									

SAMPLES COLLECTED

TYPE/DEPTH	SAC	VOLUME FILTERED	TIME COLL.	COLLECTION NUMBER
WATER QUALITY (Top)				
WATER QUALITY (Bottom) Depth of Sample:				
CHLOROPHYLL A				
OTHER (blank/dup.)				
PLANKTON TOW (2x _____ m net diameter = _____")				

COMMENTS: _____
